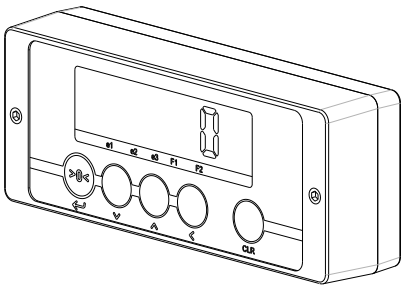
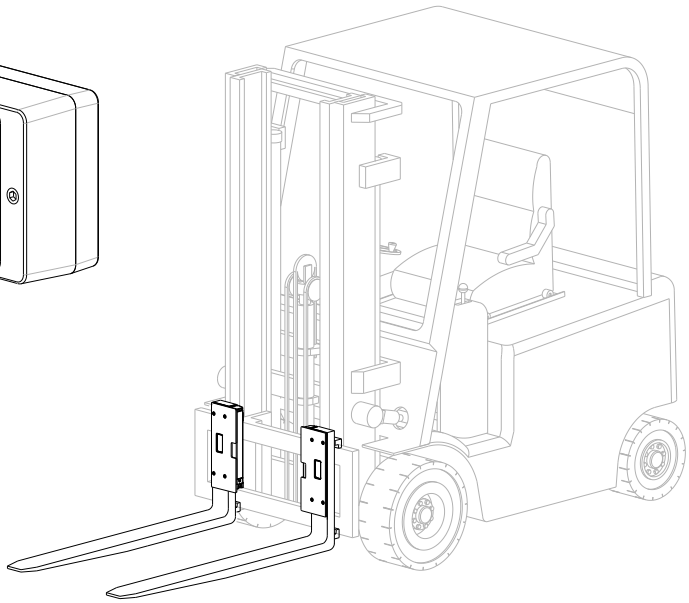
RAVAS

User Manual

MForks





Rev.27.09.11

PLEASE RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE
If you have any queries concerning the duration and terms of the guarantee, please contact your supplier. We would also refer you to our General Sale and Supply Conditions, which are available on request.

The manufacturer accepts no liability for any damage or injury caused by failure to follow these instructions, or from negligent operation or assembly, even if this is not expressly stated in this instruction manual.
In light of our policy of continuous improvement, it is possible that details of the product may differ from those described in this manual. For this reason, these instructions should only be treated as guidelines for the installation of the relevant product. This manual has been compiled with all due care, but the manufacturer cannot be held responsible for any errors or the consequences thereof. All rights are reserved and no part of this manual may be reproduced in any way.

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1. Introduction

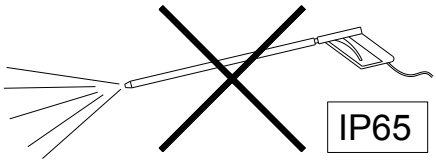
This manual describes the installation and use of the MForks. Read this manual carefully. The installer must be informed of the contents of this manual. Follow the contents of the manual precisely. Always do things in the correct order. This manual should be kept on a safe and dry place.
In case of damage or loss the user may request a new copy of the manual from RAVAS.

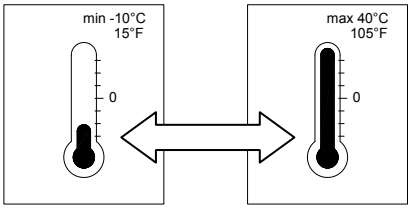
2. Warnings & Safety measures

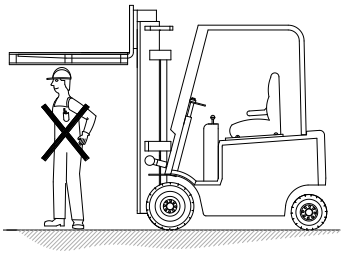
When using the MForks, please observe carefully the instructions and guidelines contained in this manual. Always perform each step in sequence. If any of the instructions are not clear, please contact RAVAS.

READ CAREFULLY

- All safety regulations that apply on the truck remain valid and unchanged
- No weighing operations are allowed if any persons or objects are in the vicinity; around, under or close to the load.
- RAVAS is not responsible for any physical harm done to the operator because of the presence of the indicator in the cabin.
- Any modifications done to the system must be approved in writing from the supplier, prior to any work being completed.
- It is the sole responsibility of the purchaser to train their own employees in the proper use and maintenance of this equipment.
- Do not operate this unit unless you have been fully trained of its capabilities.
- Check the accuracy of the scale on a regular basis to prevent faulty readings.
- Only trained and authorized personnel are allowed to service the scale.
- Always follow the operating, maintenance and repair instructions of this truck and ask the supplier when in doubt.
- RAVAS is not responsible for errors that occur due to incorrect weightings or inaccurate scales.







Should you have any further questions after reading this manual then you can contact us at:

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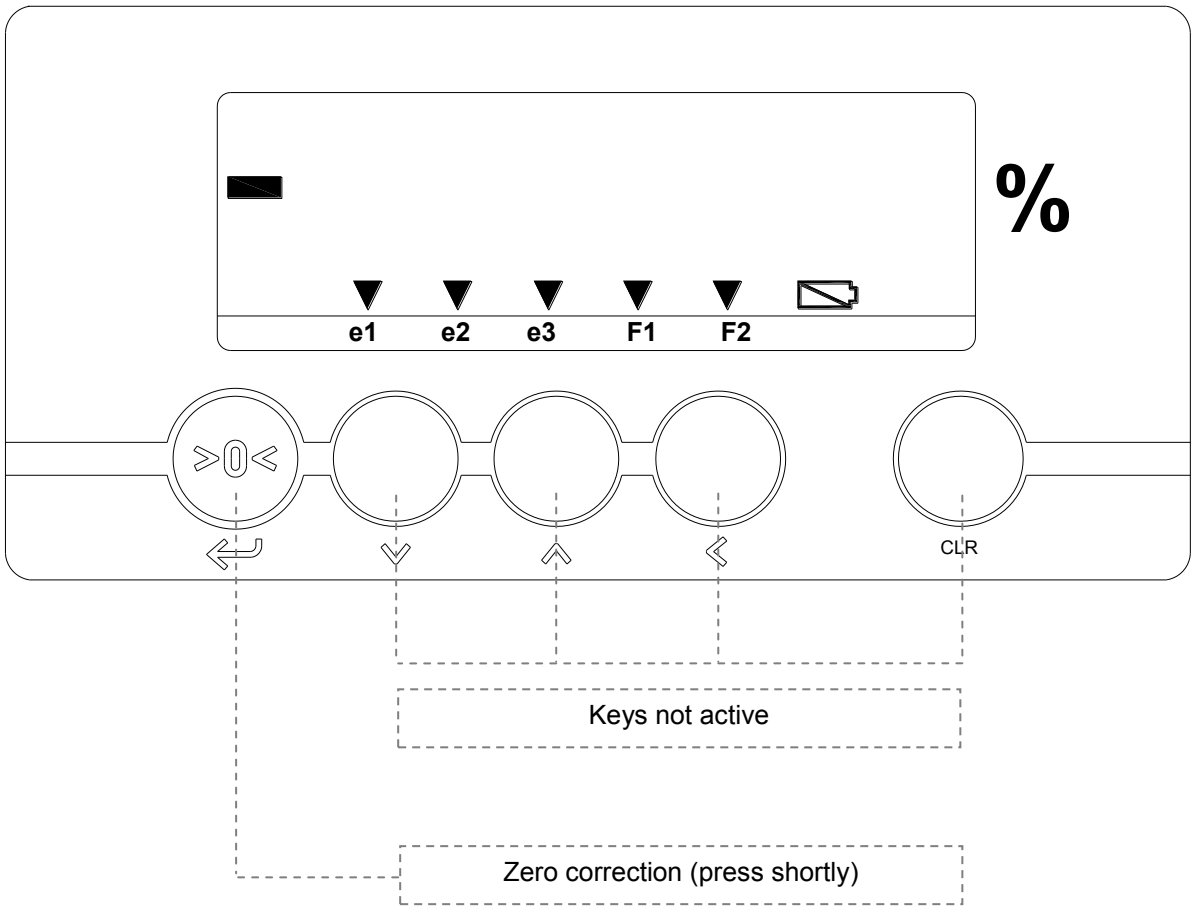
3. System setup

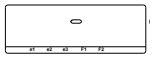
3.1 Indicator functions

Key functions

Front view indicator

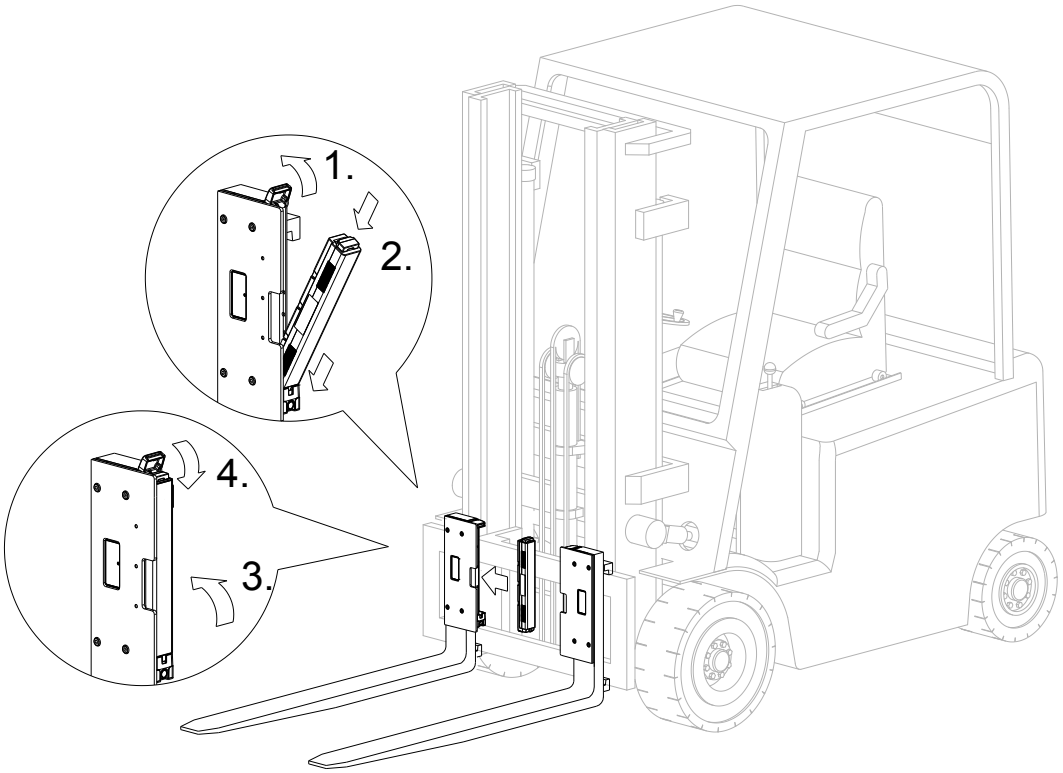


Display functions

	—	The percentage shown is negative
e1/e2/e3	▼	Calibration points (only for service technicians)
F1	▼	Fork 1 / set point 1 is activated (option relay output)
F2	▼	Fork 2 / set point 2 is activated (option relay output)
		Key not active

3.2 Placing the battery packs in the MForks

1. Lift up the locking clips on the battery holders
2. Position the battery packs in both forks
3. Click the battery packs into the battery holders
4. Push the locking clips down to secure the battery packs

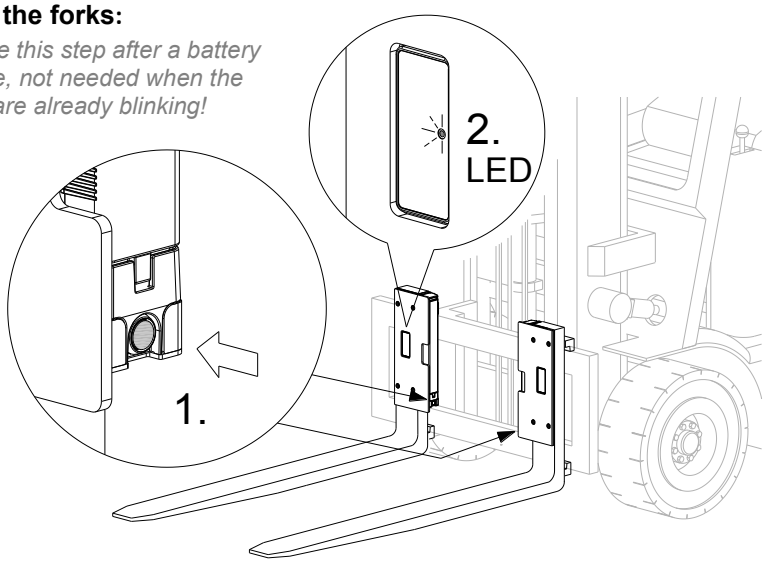


3.3 Switching on the MForks

1

Switch on the forks:

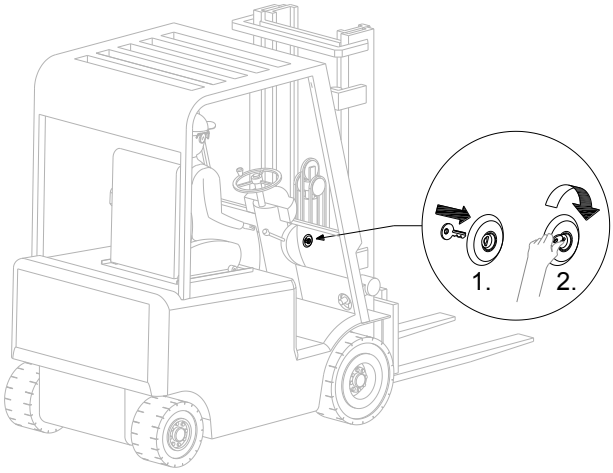
Only execute this step after a battery pack change, not needed when the blue LED's are already blinking!



1. **Switch on the forks by pressing the blue buttons on both battery pack holders**
2. **The blue LED's on the MForks will start blinking automatically**

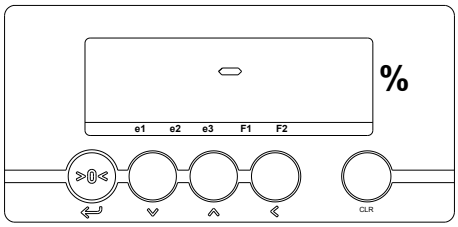
2

Switch on the indicator:



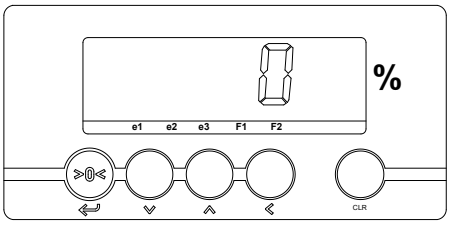
The indicator will be switched on automatically after switching on the truck

3



5 sec.

4

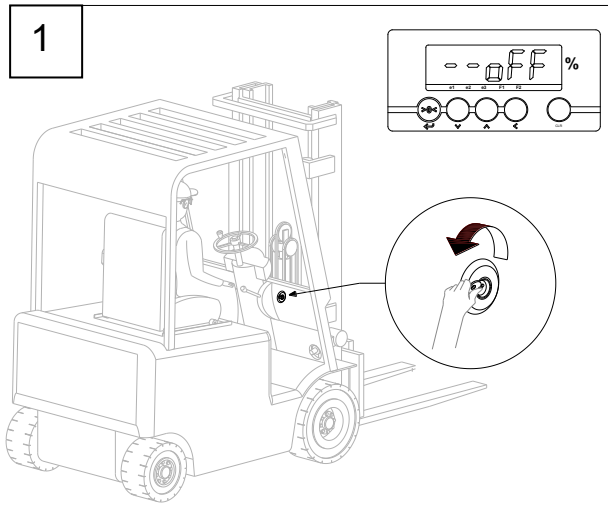


Momenload in %

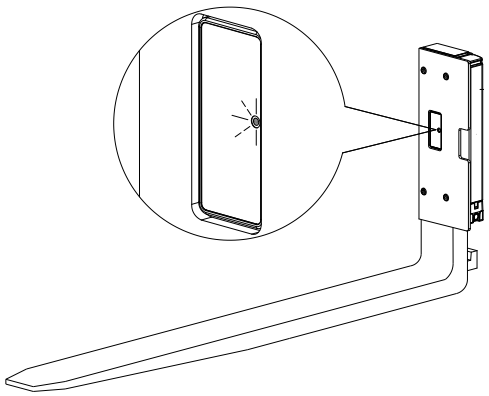
MAX = 100%

3.4 Switching off the MForks (Sleep mode)

1



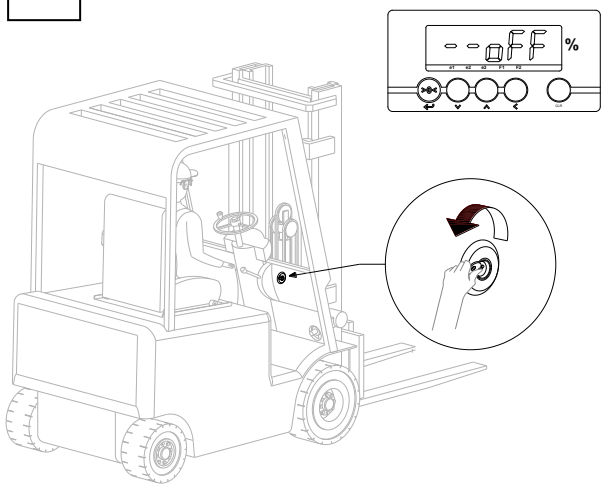
The indicator will be switched off automatically after switching off the truck
-> Both forks will go into Sleep mode



Both forks will stay in Sleep mode, the blue LED's are blinking slowly.
Both forks will be activated automatically after switching on the indicator

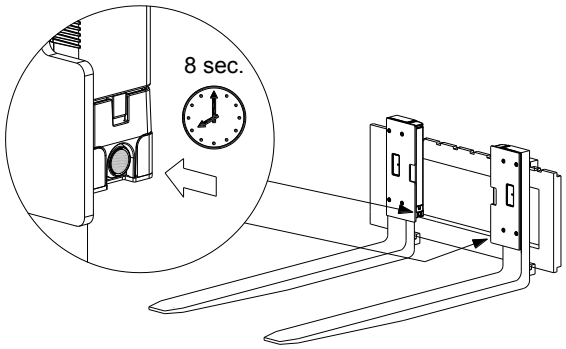
3.5 Switching off the MForks completely

1



The indicator will be switched off automatically after switching off the truck
-> Both forks will go into Sleep mode

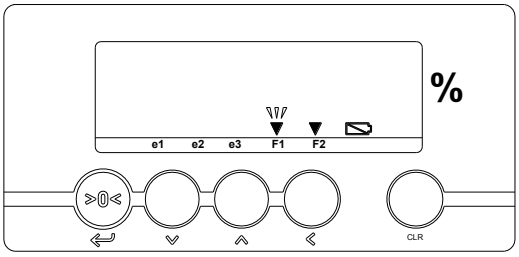
2

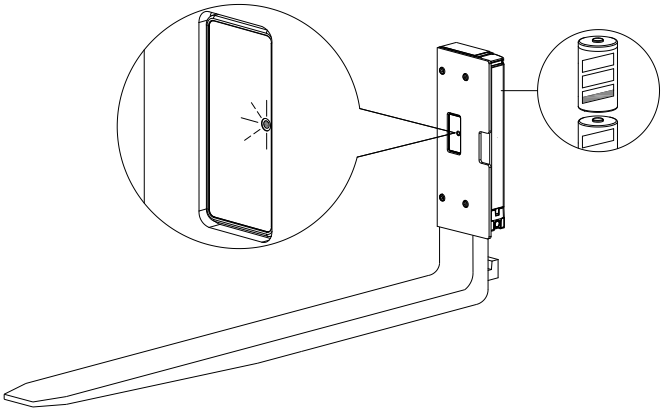


Switch off the forks by pressing the blue buttons for 8 seconds

3.6 Charging the battery packs

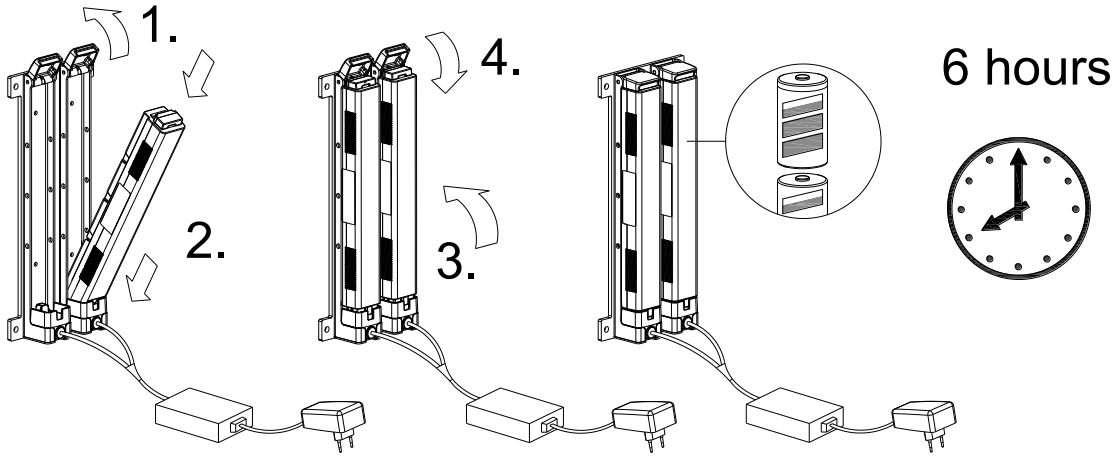
Low battery indication Mforks
Exchangeable battery packs supply power to the MForks.
When the voltage level of the battery packs is running low, the low bat indicator will light up and the pointer of the relating fork - “F1”, ”F2” or both - will start blinking in the display.
The blue LED’s on the relating fork will start blinking very slowly (twice every 10 sec). The MForks will switch off automatically after 10 minutes.





FUNCTIONALITY BLUE LED	
DURING POWERING ON	ON for 5 sec.
FULL BATTERY	*Blink time interval*
Working mode	Once every 1,5 sec.
Sleep mode	Once every 4 sec.
LOW BATTERY	
Working mode	Twice every 10 sec.
Sleep mode	Twice every 10 sec.

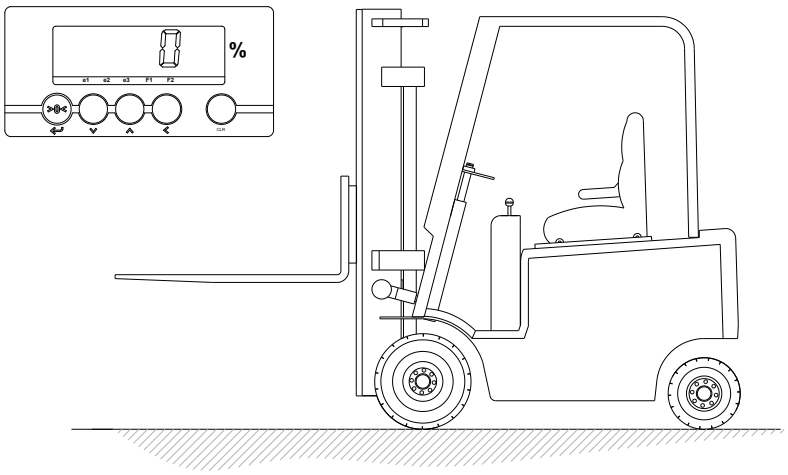
Charge the rechargeable battery packs
The system is standardly equipped with rechargeable battery packs and a charger. Charge the battery for at least 6 hours. This will prevent loss of battery capacity. Check by reading the battery pack label to make sure this battery pack is equiped with recharable batteries. Only battery packs with recharable D-cells can be re-charged.



First position the battery pack inside the charger module, then plug the adaptors into the mains voltage. When the battery is being charged, the red LED on the charger is lit. After at least 6 hours charging the green LED will switch on and the battery packs are full again. The red LED will stay on, even when the battery packs are fully charged.

4. Use

4.1 Before use: check zero point



Check the zero point every day!

When the MForks are unloaded and lifted freely from the floor, the indicator should show a value of 0%.

If the zero deviation is in between -6% and +6%, then the zero point must be corrected manually by pressing the >0< key.

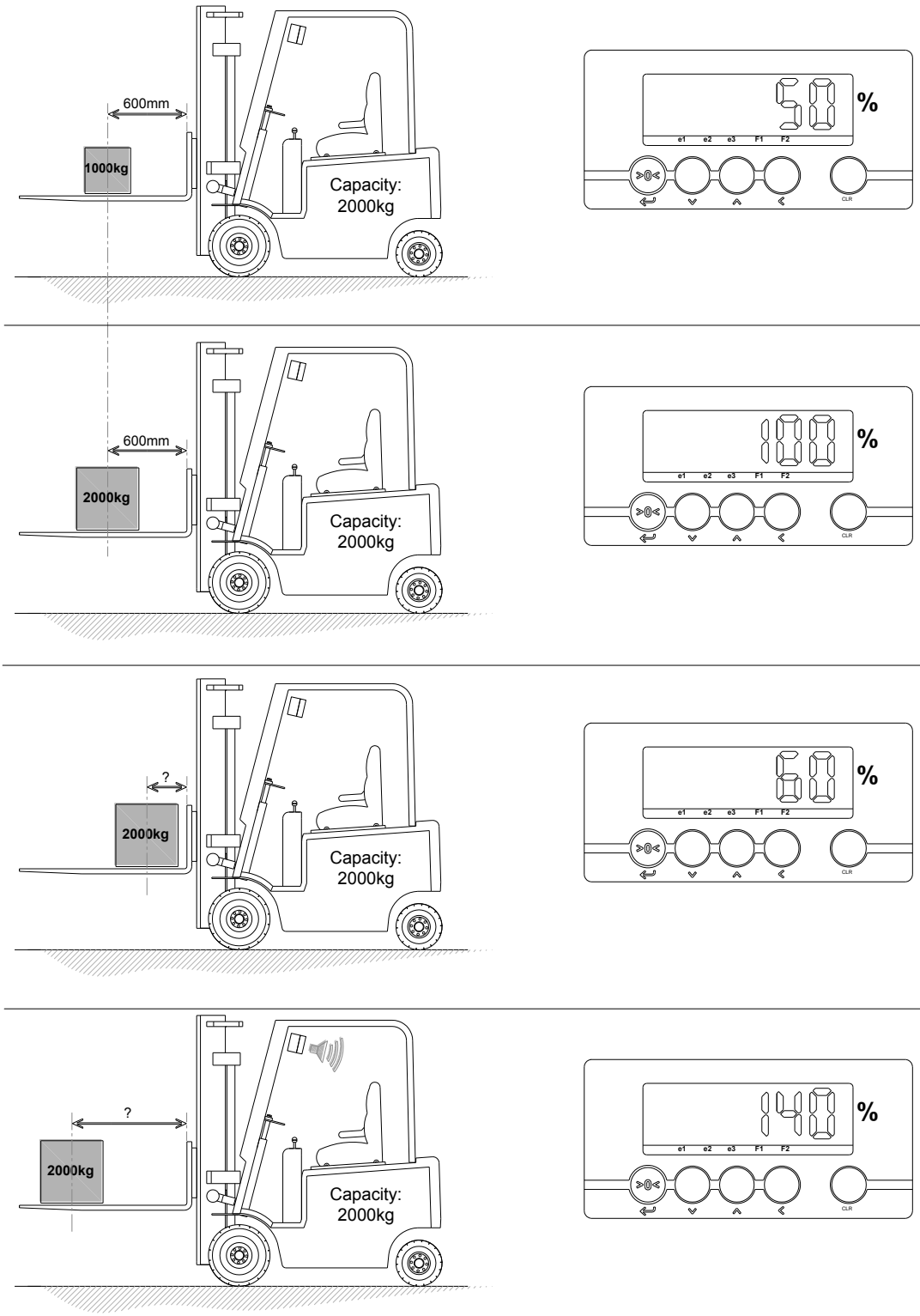
If the zero deviation is more than +/- 6%, please contact the RAVAS service department.

4.2 Using the MForks

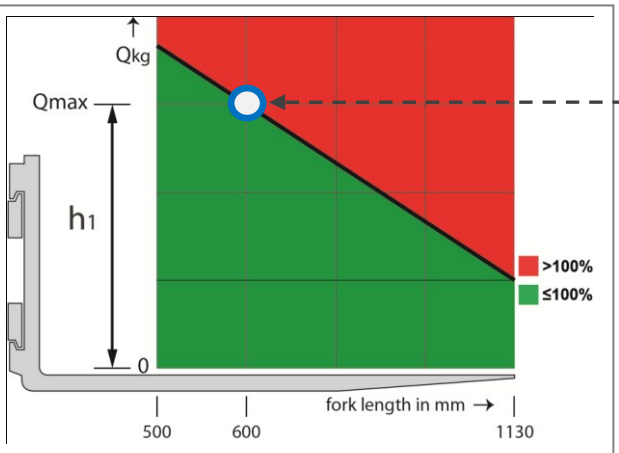
When a load is being lifted by the MForks, then the indicator will display the load that has been applied onto the forks as a *Loadmoment value*. This *Loadmoment value* is expressed as a percentage unit of the maximum capacity:

- The heavier the weight of the applied load, the higher the displayed percentage
- The bigger the load center point of the applied load, the higher the displayed percentage

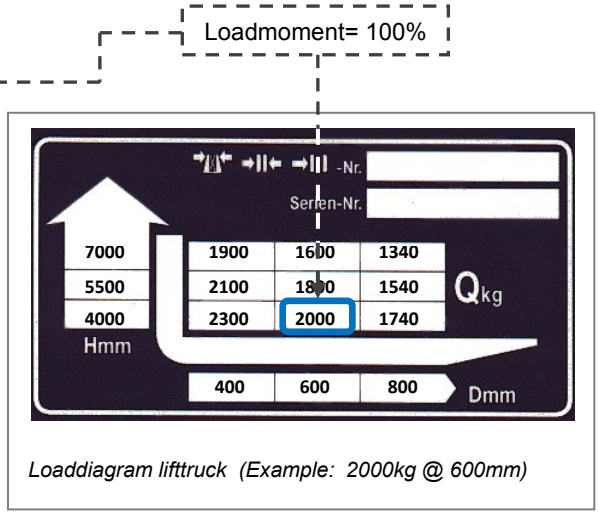
Example for a lift truck with a rated capacity of 2.000kg at load center point 600mm:



Standardly, the maximum allowed value for overload control is set to 100%. This 100% value normally corresponds with the nominal lifting capacity of the lift truck at the specified load center point, which is normally 500mm or 600mm, and at the lowest height range:

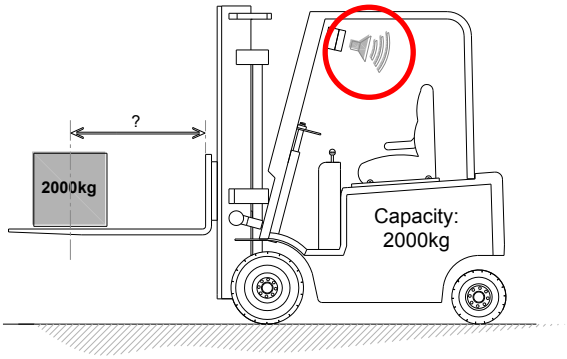


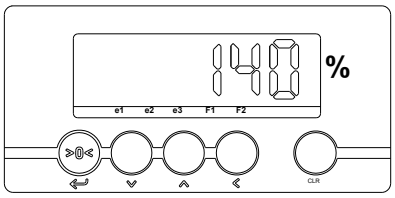
Loaddiagram MForks

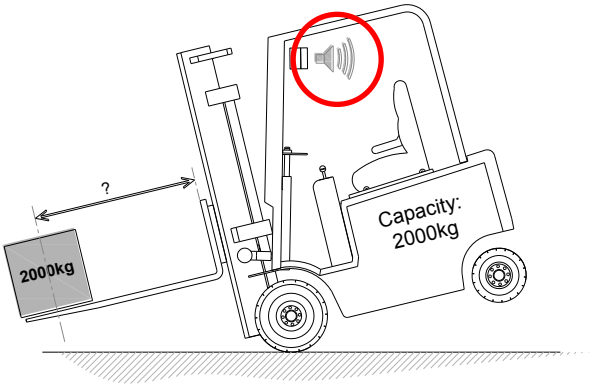


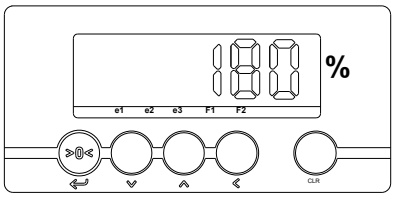
Loaddiagram lifttruck (Example: 2000kg @ 600mm)

When the lift truck is being overloaded, so the applied loadmoment becomes more than 100% (red area), then the buzzer will be activated automatically:





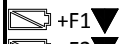
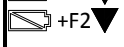




During an overload situation, the lift truck becomes less stable! So in case the buzzer is activated:

- Lower the forks directly, never lift further!
- Tilt the mast backwards directly, never tilt further forwards!
- Do not brake fast, but reduce the lift truck's driving speed slowly if possible!

4.3 Error messages

Display	Meaning	Out of error mode
Err01	Load cell signal is unstable	Automatic
Err02	Overload on full scale	Automatic after removing weight
Err03	Gross negative. This action is not allowed	Automatic
Err04	Out of zero range	Press any key
Err05	Sampling accuracy too low	Press any key
Err06	Input signal too high	Automatic after correcting input
Err08	Calibration out of range (negative)	Automatic
Err09	Calibration out of range (signal too low)	Automatic
Err10	Calibration count 2nd(3rd) point lower than count 1st(2nd) point	Automatic
Err14	Set point value 2 < set point value 1. This is not allowed	Automatic
Err97	Legal for trade version: not allowed action	When action is intended, install jumper JP1 (attention: after this action a complete new calibration and stamping of the system is necessary)
Err98	Calibration point must be higher than previous one	Automatic
Err99	Action only allowed in start-up units	Automatic
ErrF1	Problem with fork 1 (no communication)	Restart indicator. Restart forks & indicator
ErrF2	Problem with fork 2 (no communication)	Restart indicator. Restart forks & indicator
----	Sensor signal negative	Lift up the forks from the ground
	Problem with power supply to indicator	Check 12Vdc to indicator
 +F1	Battery of fork 1 is empty	Charge both battery packs
 +F2	Battery of fork 2 is empty	Charge both battery packs
BltF1	Successful Bluetooth link with Fork 1	*No error*
BltF2	Successful Bluetooth link with Fork 2	*No error*